



SEQUENCE LISTING

<100> Hellinga, Homme W.
Sloan, David J.

<120> NOVEL REAGENTS FOR AFFINITY-PURIFICATION OF ANTIBODY FRAGMENTS

<130> Docket No. 180-106 Sequence Listing

<160> 30

<170> PatentIn Ver. 2.0

<210> 1

<211> 195

<212> DNA

<213> Streptococcus sp.

<220>

<221> CDS

<222> (-1) .. (195)

<400> 1

atg	act	act	tac	aaa	tta	atc	ctt	aat	ggt	aaa	aca	ttg	aaa	ggc	gaa	48
Met	Thr	Thr	Tyr	Lys	Leu	Ile	Leu	Asn	Gly	Lys	Thr	Leu	Lys	Gly	Glu	
-1	1				5				10						15	

aca	act	act	gaa	gct	gtt	gat	gct	gct	act	gca	gaa	aaa	gtc	ttc	aaa	96
Thr	Thr	Thr	Glu	Ala	Val	Asp	Ala	Ala	Thr	Ala	Glu	Lys	Val	Phe	Lys	
			20				25						30			

caa	tac	gct	aac	gac	aac	ggt	gtt	gac	ggt	gaa	tgg	act	tac	gac	gat	144
Gln	Tyr	Ala	Asn	Asp	Asn	Gly	Val	Asp	Gly	Glu	Trp	Thr	Tyr	Asp	Asp	
			35				40						45			

gcg	act	aag	acc	ttt	aca	gtt	act	gaa	cat	cac	cat	cat	cac	taa	gct	192
Ala	Thr	Lys	Thr	Phe	Thr	Val	Thr	Glu	His	His	His	His	His		Ala	
		50				55					60					

tga																195
-----	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-----

<210> 2

<211> 62

<212> PRT

<213> Streptococcus sp.

<400> 2

Met	Thr	Thr	Tyr	Lys	Leu	Ile	Leu	Asn	Gly	Lys	Thr	Leu	Lys	Gly	Glu
-1	1				5				10						15

Thr	Thr	Thr	Glu	Ala	Val	Asp	Ala	Ala	Thr	Ala	Glu	Lys	Val	Phe	Lys
			20				25						30		

Gln	Tyr	Ala	Asn	Asp	Asn	Gly	Val	Asp	Gly	Glu	Trp	Thr	Tyr	Asp	Asp
			35				40						45		

Ala Thr Lys Thr Phe Thr Val Thr Glu His His His His His
50 55 60

<210> 3
<211> 62
<212> PRT
<213> Streptococcus sp.

<400> 3

Met Thr Thr Tyr Lys Leu Ile Leu Asn Gly Lys Thr Leu Lys Gly Glu
-1 1 5 10 15

Thr Thr Thr Glu Ala Val Asp Ala Ala Thr Ala Glu Lys Val Phe Lys
20 25 30

Cys Tyr Ala Asn Asp Asn Gly Val Asp Gly Glu Trp Thr Tyr Asp Asp
35 40 45

Ala Thr Lys Thr Phe Thr Val Thr Glu His His His His His
50 55 60

<210> 4
<211> 62
<212> PRT
<213> Streptococcus sp.

<400> 4

Met Thr Thr Tyr Lys Leu Ile Leu Asn Gly Lys Thr Leu Lys Gly Glu
-1 1 5 10 15

Thr Thr Thr Glu Ala Val Asp Ala Ala Ala Ala Glu Lys Val Phe Lys
20 25 30

Gln Tyr Ala Asn Asp Asn Gly Val Asp Gly Glu Trp Thr Tyr Asp Asp
35 40 45

Ala Thr Lys Thr Phe Thr Val Thr Glu His His His His His
50 55 60

<210> 5
<211> 195
<212> DNA
<213> Streptococcus sp.

<220>
<221> CDS
<222> (-1)..(195)

<400> 5

atg act act tac aaa tta atc ctt aat ggt aaa aca ttg aaa ggc gaa 48
Met Thr Thr Tyr Lys Leu Ile Leu Asn Gly Lys Thr Leu Lys Gly Glu
-1 1 5 10 15

aca	act	act	gaa	gct	ggt	gat	gct	gct	act	gca	gcg	aaa	gtc	ttc	aaa	96
Thr	Thr	Thr	Glu	Ala	Val	Asp	Ala	Ala	Thr	Ala	Ala	Lys	Val	Phe	Lys	
			20						25					30		

caa	tac	gct	aac	gac	aac	ggt	ggt	gac	ggt	gaa	tgg	act	tac	gac	gat	144
Gln	Tyr	Ala	Asn	Asp	Asn	Gly	Val	Asp	Gly	Glu	Trp	Thr	Tyr	Asp	Asp	
			35					40					45			

gcg	act	aag	acc	ttt	aca	ggt	act	gaa	cat	cac	cat	cat	cac	taa	gct	192
Ala	Thr	Lys	Thr	Phe	Thr	Val	Thr	Glu	His	His	His	His	His		Ala	
		50					55					60				

tga																195
-----	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-----

<210> 6
 <211> 62
 <212> PRT
 <213> Streptococcus sp.

<400> 6

Met	Thr	Thr	Tyr	Lys	Leu	Ile	Leu	Asn	Gly	Lys	Thr	Leu	Lys	Gly	Glu
-1	1				5					10					15

Thr	Thr	Thr	Glu	Ala	Val	Asp	Ala	Ala	Thr	Ala	Ala	Lys	Val	Phe	Lys
			20						25					30	

Gln	Tyr	Ala	Asn	Asp	Asn	Gly	Val	Asp	Gly	Glu	Trp	Thr	Tyr	Asp	Asp
			35					40					45		

Ala	Thr	Lys	Thr	Phe	Thr	Val	Thr	Glu	His	His	His	His	His		
		50					55					60			

<210> 7
 <211> 195
 <212> DNA
 <213> Streptococcus sp.

<220>
 <221> CDS
 <222> (-1)..(195)

<400> 7

atg	act	act	tac	aaa	tta	atc	ctt	aat	ggt	aaa	aca	ttg	aaa	ggc	gaa	48
Met	Thr	Thr	Tyr	Lys	Leu	Ile	Leu	Asn	Gly	Lys	Thr	Leu	Lys	Gly	Glu	
-1	1				5					10					15	

aca	act	act	gaa	gct	ggt	gat	gct	gct	act	gca	gaa	gcg	gtc	ttc	aaa	96
Thr	Thr	Thr	Glu	Ala	Val	Asp	Ala	Ala	Thr	Ala	Glu	Ala	Val	Phe	Lys	
			20						25					30		

caa	tac	gct	aac	gac	aac	ggt	ggt	gac	ggt	gaa	tgg	act	tac	gac	gat	144
Gln	Tyr	Ala	Asn	Asp	Asn	Gly	Val	Asp	Gly	Glu	Trp	Thr	Tyr	Asp	Asp	
			35					40					45			

gcg	act	aag	acc	ttt	aca	gtt	act	gaa	cat	cac	cat	cat	cac	taa	gct	192
Ala	Thr	Lys	Thr	Phe	Thr	Val	Thr	Glu	His	His	His	His	His		Ala	
		50					55					60				

tga																195
-----	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-----

<210> 8
 <211> 62
 <212> PRT
 <213> Streptococcus sp.

<400> 8

Met	Thr	Thr	Tyr	Lys	Leu	Ile	Leu	Asn	Gly	Lys	Thr	Leu	Lys	Gly	Glu	
-1	1				5				10						15	
Thr	Thr	Thr	Glu	Ala	Val	Asp	Ala	Ala	Thr	Ala	Glu	Ala	Val	Phe	Lys	
			20						25					30		
Gln	Tyr	Ala	Asn	Asp	Asn	Gly	Val	Asp	Gly	Glu	Trp	Thr	Tyr	Asp	Asp	
			35					40					45			
Ala	Thr	Lys	Thr	Phe	Thr	Val	Thr	Glu	His	His	His	His	His			
		50					55					60				

<210> 9
 <211> 195
 <212> DNA
 <213> Streptococcus sp.

<220>
 <221> CDS
 <222> (-1)..(195)

<400> 9

atg	act	act	tac	aaa	tta	atc	ctt	aat	ggt	aaa	aca	ttg	aaa	ggc	gaa	48
Met	Thr	Thr	Tyr	Lys	Leu	Ile	Leu	Asn	Gly	Lys	Thr	Leu	Lys	Gly	Glu	
-1	1				5				10						15	
aca	act	act	gaa	gct	gtt	gat	gct	gct	act	gca	gaa	aaa	gtc	ttc	gcg	96
Thr	Thr	Thr	Glu	Ala	Val	Asp	Ala	Ala	Thr	Ala	Glu	Lys	Val	Phe	Ala	
			20						25					30		
caa	tac	gct	aac	gac	aac	ggt	gtt	gac	ggt	gaa	tgg	act	tac	gac	gat	144
Gln	Tyr	Ala	Asn	Asp	Asn	Gly	Val	Asp	Gly	Glu	Trp	Thr	Tyr	Asp	Asp	
			35					40					45			
gcg	act	aag	acc	ttt	aca	gtt	act	gaa	cat	cac	cat	cat	cac	taa	gct	192
Ala	Thr	Lys	Thr	Phe	Thr	Val	Thr	Glu	His	His	His	His	His		Ala	
		50					55					60				

tga																195
-----	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-----

<210> 10
 <211> 62
 <212> PRT
 <213> Streptococcus sp.

<400> 10

Met	Thr	Thr	Tyr	Lys	Leu	Ile	Leu	Asn	Gly	Lys	Thr	Leu	Lys	Gly	Glu	
-1	1				5					10					15	
Thr	Thr	Thr	Glu	Ala	Val	Asp	Ala	Ala	Thr	Ala	Glu	Lys	Val	Phe	Ala	
				20					25					30		
Gln	Tyr	Ala	Asn	Asp	Asn	Gly	Val	Asp	Gly	Glu	Trp	Thr	Tyr	Asp	Asp	
			35					40					45			
Ala	Thr	Lys	Thr	Phe	Thr	Val	Thr	Glu	His	His	His	His	His			
		50					55					60				

<210> 11
 <211> 195
 <212> DNA
 <213> Streptococcus sp.

<220>
 <221> CDS
 <222> (-1) .. (195)

<400> 11

atg	act	act	tac	aaa	tta	atc	ctt	aat	ggt	aaa	aca	ttg	aaa	ggc	gaa	48
Met	Thr	Thr	Tyr	Lys	Leu	Ile	Leu	Asn	Gly	Lys	Thr	Leu	Lys	Gly	Glu	
-1	1				5					10					15	
aca	act	act	gaa	gct	gtt	gat	gct	gct	act	gca	gaa	aaa	gtc	ttc	aaa	96
Thr	Thr	Thr	Glu	Ala	Val	Asp	Ala	Ala	Thr	Ala	Glu	Lys	Val	Phe	Lys	
				20					25					30		
caa	tac	gct	gcg	gac	aac	ggt	gtt	gac	ggt	gaa	tgg	act	tac	gac	gat	144
Gln	Tyr	Ala	Ala	Asp	Asn	Gly	Val	Asp	Gly	Glu	Trp	Thr	Tyr	Asp	Asp	
			35					40					45			
gcg	act	aag	acc	ttt	aca	gtt	act	gaa	cat	cac	cat	cat	cac	taa	gct	192
Ala	Thr	Lys	Thr	Phe	Thr	Val	Thr	Glu	His	His	His	His	His		Ala	
		50					55					60				
tga																195

<210> 12
 <211> 62
 <212> PRT
 <213> Streptococcus sp.

<400> 12

Met Thr Thr Tyr Lys Leu Ile Leu Asn Gly Lys Thr Leu Lys Gly Glu
 -1 1 5 10 15
 Thr Thr Thr Glu Ala Val Asp Ala Ala Thr Ala Glu Lys Val Phe Lys
 20 25 30
 Gln Tyr Ala Ala Asp Asn Gly Val Asp Gly Glu Trp Thr Tyr Asp Asp
 35 40 45
 Ala Thr Lys Thr Phe Thr Val Thr Glu His His His His His
 50 55 60

<210> 13
 <211> 62
 <212> PRT
 <213> Streptococcus sp.

<400> 13

Met Thr Thr Tyr Lys Leu Ile Leu Asn Gly Lys Thr Leu Lys Gly Glu
 -1 1 5 10 15
 Thr Thr Thr Glu Ala Val Asp Ala Ala Thr Ala Glu Lys Val Phe Lys
 20 25 30
 Gln Tyr Ala Asn Asp Asn Gly Val Ala Gly Glu Trp Thr Tyr Asp Asp
 35 40 45
 Ala Thr Lys Thr Phe Thr Val Thr Glu His His His His His
 50 55 60

<210> 14
 <211> 62
 <212> PRT
 <213> Streptococcus sp.

<400> 14

Met Thr Thr Tyr Lys Leu Ile Leu Asn Gly Lys Thr Leu Lys Gly Glu
 -1 1 5 10 15
 Thr Thr Thr Glu Ala Val Asp Ala Ala Thr Ala Glu Lys Val Phe Lys
 20 25 30
 Gln Tyr Ala Asn Asp Asn Gly Val Asp Gly Ala Trp Thr Tyr Asp Asp
 35 40 45
 Ala Thr Lys Thr Phe Thr Val Thr Glu His His His His His
 50 55 60

<210> 15
 <211> 195
 <212> DNA
 <213> Streptococcus sp.

<220>
 <221> CDS
 <222> (-1)..(195)

<400> 15
 atg act act tac aaa tta atc ctt aat ggt aaa aca ttg aaa ggc gaa 48
 Met Thr Thr Tyr Lys Leu Ile Leu Asn Gly Lys Thr Leu Lys Gly Glu
 -1 1 5 10 15
 aca act act gaa gct gtt gat gct gct act gca gaa aaa gtc ttc aaa 96
 Thr Thr Thr Glu Ala Val Asp Ala Ala Thr Ala Glu Lys Val Phe Lys
 20 25 30
 caa tac gct aac gac aac ggt gtt gac ggt gaa gcg act tac gac gat 144
 Gln Tyr Ala Asn Asp Asn Gly Val Asp Gly Glu Ala Thr Tyr Asp Asp
 35 40 45
 gcg act aag acc ttt aca gtt act gaa cat cac cat cat cac taa gct 192
 Ala Thr Lys Thr Phe Thr Val Thr Glu His His His His His Ala
 50 55 60
 tga 195

<210> 16
 <211> 62
 <212> PRT
 <213> Streptococcus sp.

<400> 16
 Met Thr Thr Tyr Lys Leu Ile Leu Asn Gly Lys Thr Leu Lys Gly Glu
 -1 1 5 10 15
 Thr Thr Thr Glu Ala Val Asp Ala Ala Thr Ala Glu Lys Val Phe Lys
 20 25 30
 Gln Tyr Ala Asn Asp Asn Gly Val Asp Gly Glu Ala Thr Tyr Asp Asp
 35 40 45
 Ala Thr Lys Thr Phe Thr Val Thr Glu His His His His His
 50 55 60

<210> 17
 <211> 195
 <212> DNA
 <213> Streptococcus sp.

<220>
 <221> CDS
 <222> (-1)..(195)

<400> 17
 atg act act tac aaa tta atc ctt aat ggt aaa aca ttg aaa ggc gaa 48
 Met Thr Thr Tyr Lys Leu Ile Leu Asn Gly Lys Thr Leu Lys Gly Glu
 -1 1 5 10 15

aca	act	act	gaa	gct	gtt	gat	gct	gct	act	gca	gaa	aaa	gtc	ttc	aaa	96
Thr	Thr	Thr	Glu	Ala	Val	Asp	Ala	Ala	Thr	Ala	Glu	Lys	Val	Phe	Lys	
			20						25					30		

caa	tac	gct	aac	gac	aac	ggg	gtt	gac	ggg	gaa	tgg	gcg	gac	gat	144	
Gln	Tyr	Ala	Asn	Asp	Asn	Gly	Val	Asp	Gly	Glu	Trp	Ala	Ala	Asp	Asp	
			35					40					45			

gcg	act	aag	acc	ttt	aca	gtt	act	gaa	cat	cac	cat	cat	cac	taa	gct	192
Ala	Thr	Lys	Thr	Phe	Thr	Val	Thr	Glu	His	His	His	His	His		Ala	
		50					55					60				

tga																195
-----	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-----

<210> 18
 <211> 62
 <212> PRT
 <213> Streptococcus sp.

<400> 18

Met	Thr	Thr	Tyr	Lys	Leu	Ile	Leu	Asn	Gly	Lys	Thr	Leu	Lys	Gly	Glu
-1	1				5					10					15

Thr	Thr	Thr	Glu	Ala	Val	Asp	Ala	Ala	Thr	Ala	Glu	Lys	Val	Phe	Lys
			20						25					30	

Gln	Tyr	Ala	Asn	Asp	Asn	Gly	Val	Asp	Gly	Glu	Trp	Ala	Ala	Asp	Asp
			35					40					45		

Ala	Thr	Lys	Thr	Phe	Thr	Val	Thr	Glu	His	His	His	His	His		
		50					55					60			

<210> 19
 <211> 195
 <212> DNA
 <213> Streptococcus sp.

<220>
 <221> CDS
 <222> (-1)..(195)

<400> 19

atg	act	act	tac	aaa	tta	atc	ctt	aat	ggg	aaa	aca	ttg	aaa	ggc	gaa	48
Met	Thr	Thr	Tyr	Lys	Leu	Ile	Leu	Asn	Gly	Lys	Thr	Leu	Lys	Gly	Glu	
-1	1				5				10						15	

aca	act	act	gaa	gct	gtt	gat	gct	gct	act	gca	gtt	aaa	gtc	ttc	aaa	96
Thr	Thr	Thr	Glu	Ala	Val	Asp	Ala	Ala	Thr	Ala	Val	Lys	Val	Phe	Lys	
			20						25					30		

caa	tac	gct	aac	gac	aac	ggg	gtt	gac	ggg	gaa	tgg	act	tac	gac	gat	144
Gln	Tyr	Ala	Asn	Asp	Asn	Gly	Val	Asp	Gly	Glu	Trp	Thr	Tyr	Asp	Asp	
			35					40					45			

gcg	act	aag	acc	ttt	aca	gtt	act	gaa	cat	cac	cat	cat	cac	taa	gct	192
Ala	Thr	Lys	Thr	Phe	Thr	Val	Thr	Glu	His	His	His	His	His		Ala	
		50					55					60				

tga 195

<210> 20
 <211> 62
 <212> PRT
 <213> Streptococcus sp.

<400> 20

Met	Thr	Thr	Tyr	Lys	Leu	Ile	Leu	Asn	Gly	Lys	Thr	Leu	Lys	Gly	Glu	
-1	1				5					10					15	
Thr	Thr	Thr	Glu	Ala	Val	Asp	Ala	Ala	Thr	Ala	Val	Lys	Val	Phe	Lys	
				20					25					30		
Gln	Tyr	Ala	Asn	Asp	Asn	Gly	Val	Asp	Gly	Glu	Trp	Thr	Tyr	Asp	Asp	
			35					40					45			
Ala	Thr	Lys	Thr	Phe	Thr	Val	Thr	Glu	His	His	His	His	His			
		50					55					60				

<210> 21
 <211> 195
 <212> DNA
 <213> Streptococcus sp.

<220>
 <221> CDS
 <222> (-1) .. (195)

<400> 21

atg	act	act	tac	aaa	tta	atc	ctt	aat	ggt	aaa	aca	ttg	aaa	ggc	gaa	48
Met	Thr	Thr	Tyr	Lys	Leu	Ile	Leu	Asn	Gly	Lys	Thr	Leu	Lys	Gly	Glu	
-1	1				5					10					15	
aca	act	act	gaa	gct	gtt	gat	gct	gct	act	gca	tta	aaa	gtc	ttc	aaa	96
Thr	Thr	Thr	Glu	Ala	Val	Asp	Ala	Ala	Thr	Ala	Leu	Lys	Val	Phe	Lys	
				20					25					30		
caa	tac	gct	aac	gac	aac	ggt	gtt	gac	ggt	gaa	tgg	act	tac	gac	gat	144
Gln	Tyr	Ala	Asn	Asp	Asn	Gly	Val	Asp	Gly	Glu	Trp	Thr	Tyr	Asp	Asp	
			35					40					45			
gcg	act	aag	acc	ttt	aca	gtt	act	gaa	cat	cac	cat	cat	cac	taa	gct	192
Ala	Thr	Lys	Thr	Phe	Thr	Val	Thr	Glu	His	His	His	His	His		Ala	
		50					55					60				

tga 195

<210> 22
 <211> 62
 <212> PRT
 <213> Streptococcus sp.

<400> 22

Met	Thr	Thr	Tyr	Lys	Leu	Ile	Leu	Asn	Gly	Lys	Thr	Leu	Lys	Gly	Glu	
-1	1				5					10					15	
Thr	Thr	Thr	Glu	Ala	Val	Asp	Ala	Ala	Thr	Ala	Leu	Lys	Val	Phe	Lys	
			20						25					30		
Gln	Tyr	Ala	Asn	Asp	Asn	Gly	Val	Asp	Gly	Glu	Trp	Thr	Tyr	Asp	Asp	
			35					40					45			
Ala	Thr	Lys	Thr	Phe	Thr	Val	Thr	Glu	His	His	His	His	His			
		50					55					60				

<210> 23
 <211> 195
 <212> DNA
 <213> Streptococcus sp.

<220>
 <221> CDS
 <222> (-1)..(195)

<400> 23

atg	act	act	tac	aaa	tta	atc	ctt	aat	ggt	aaa	aca	ttg	aaa	ggc	gaa	48
Met	Thr	Thr	Tyr	Lys	Leu	Ile	Leu	Asn	Gly	Lys	Thr	Leu	Lys	Gly	Glu	
-1	1				5					10					15	
aca	act	act	gaa	gct	gtt	gat	gct	gct	act	gca	att	aaa	gtc	ttc	aaa	96
Thr	Thr	Thr	Glu	Ala	Val	Asp	Ala	Ala	Thr	Ala	Ile	Lys	Val	Phe	Lys	
			20						25					30		
caa	tac	gct	aac	gac	aac	ggt	gtt	gac	ggt	gaa	tgg	act	tac	gac	gat	144
Gln	Tyr	Ala	Asn	Asp	Asn	Gly	Val	Asp	Gly	Glu	Trp	Thr	Tyr	Asp	Asp	
			35					40					45			
gcg	act	aag	acc	ttt	aca	gtt	act	gaa	cat	cac	cat	cat	cac	taa	gct	192
Ala	Thr	Lys	Thr	Phe	Thr	Val	Thr	Glu	His	His	His	His	His		Ala	
		50					55					60				
tga																195

<210> 24
 <211> 62
 <212> PRT
 <213> Streptococcus sp.

<400> 24

Met Thr Thr Tyr Lys Leu Ile Leu Asn Gly Lys Thr Leu Lys Gly Glu
 -1 1 5 10 15
 Thr Thr Thr Glu Ala Val Asp Ala Ala Thr Ala Ile Lys Val Phe Lys
 20 25 30
 Gln Tyr Ala Asn Asp Asn Gly Val Asp Gly Glu Trp Thr Tyr Asp Asp
 35 40 45
 Ala Thr Lys Thr Phe Thr Val Thr Glu His His His His His
 50 55 60

<210> 25
 <211> 62
 <212> PRT
 <213> Streptococcus sp.

<220>
 <221> misc_feature
 <222> (27)..(27)
 <223> Xaa can be any naturally occurring amino acid, except glutamine

<400> 25

Met Thr Thr Tyr Lys Leu Ile Leu Asn Gly Lys Thr Leu Lys Gly Glu
 -1 1 5 10 15
 Thr Thr Thr Glu Ala Val Asp Ala Ala Thr Ala Xaa Lys Val Phe Lys
 20 25 30
 Gln Tyr Ala Asn Asp Asn Gly Val Asp Gly Glu Trp Thr Tyr Asp Asp
 35 40 45
 Ala Thr Lys Thr Phe Thr Val Thr Glu His His His His His
 50 55 60

<210> 26
 <211> 62
 <212> PRT
 <213> Streptococcus sp.

<220>
 <221> misc_feature
 <222> (28)..(28)
 <223> Xaa can be any naturally occurring amino acid, except lysine

<400> 26

Met Thr Thr Tyr Lys Leu Ile Leu Asn Gly Lys Thr Leu Lys Gly Glu
 -1 1 5 10 15
 Thr Thr Thr Glu Ala Val Asp Ala Ala Thr Ala Glu Xaa Val Phe Lys
 20 25 30

Gln Tyr Ala Asn Asp Asn Gly Val Asp Gly Glu Trp Thr Tyr Asp Asp
 35 40 45

Ala Thr Lys Thr Phe Thr Val Thr Glu His His His His His
 50 55 60

<210> 27
 <211> 62
 <212> PRT
 <213> Streptococcus sp.

<220>
 <221> misc_feature
 <222> (31)..(31)
 <223> Xaa can be any naturally occurring amino acid, except lysine

<400> 27

Met Thr Thr Tyr Lys Leu Ile Leu Asn Gly Lys Thr Leu Lys Gly Glu
 -1 1 5 10 15

Thr Thr Thr Glu Ala Val Asp Ala Ala Thr Ala Glu Lys Val Phe Xaa
 20 25 30

Gln Tyr Ala Asn Asp Asn Gly Val Asp Gly Glu Trp Thr Tyr Asp Asp
 35 40 45

Ala Thr Lys Thr Phe Thr Val Thr Glu His His His His His
 50 55 60

<210> 28
 <211> 62
 <212> PRT
 <213> Streptococcus sp.

<220>
 <221> misc_feature
 <222> (35)..(35)
 <223> Xaa can be any naturally occurring amino acid, except asparagine

<400> 28

Met Thr Thr Tyr Lys Leu Ile Leu Asn Gly Lys Thr Leu Lys Gly Glu
 -1 1 5 10 15

Thr Thr Thr Glu Ala Val Asp Ala Ala Thr Ala Glu Lys Val Phe Lys
 20 25 30

Gln Tyr Ala Xaa Asp Asn Gly Val Asp Gly Glu Trp Thr Tyr Asp Asp
 35 40 45

Ala Thr Lys Thr Phe Thr Val Thr Glu His His His His His
 50 55 60

<210> 29
 <211> 62
 <212> PRT
 <213> Streptococcus sp.

<220>
 <221> misc_feature
 <222> (43)..(43)
 <223> Xaa can be any naturally occurring amino acid, except tryptophan

<400> 29

Met	Thr	Thr	Tyr	Lys	Leu	Ile	Leu	Asn	Gly	Lys	Thr	Leu	Lys	Gly	Glu
-1	1				5				10					15	
Thr	Thr	Thr	Glu	Ala	Val	Asp	Ala	Ala	Thr	Ala	Glu	Lys	Val	Phe	Lys
			20						25					30	
Gln	Tyr	Ala	Asn	Asp	Asn	Gly	Val	Asp	Gly	Glu	Xaa	Thr	Tyr	Asp	Asp
			35					40					45		
Ala	Thr	Lys	Thr	Phe	Thr	Val	Thr	Glu	His	His	His	His	His		
		50					55						60		

<210> 30
 <211> 62
 <212> PRT
 <213> Streptococcus sp.

<220>
 <221> misc_feature
 <222> (44)..(44)
 <223> Xaa can be any naturally occurring amino acid, except threonine

<220>
 <221> misc_feature
 <222> (45)..(45)
 <223> Xaa can be any naturally occurring amino acid, except tyrosine

<400> 30

Met	Thr	Thr	Tyr	Lys	Leu	Ile	Leu	Asn	Gly	Lys	Thr	Leu	Lys	Gly	Glu
-1	1				5				10					15	
Thr	Thr	Thr	Glu	Ala	Val	Asp	Ala	Ala	Thr	Ala	Glu	Lys	Val	Phe	Lys
			20						25					30	
Gln	Tyr	Ala	Asn	Asp	Asn	Gly	Val	Asp	Gly	Glu	Trp	Xaa	Xaa	Asp	Asp
			35					40					45		
Ala	Thr	Lys	Thr	Phe	Thr	Val	Thr	Glu	His	His	His	His	His		
		50					55						60		